

BIRTH ATLAS

Reproductions of Twenty-four Life-Size Sculptures of Fertilization, Growth, Stages of Labor, and Involution

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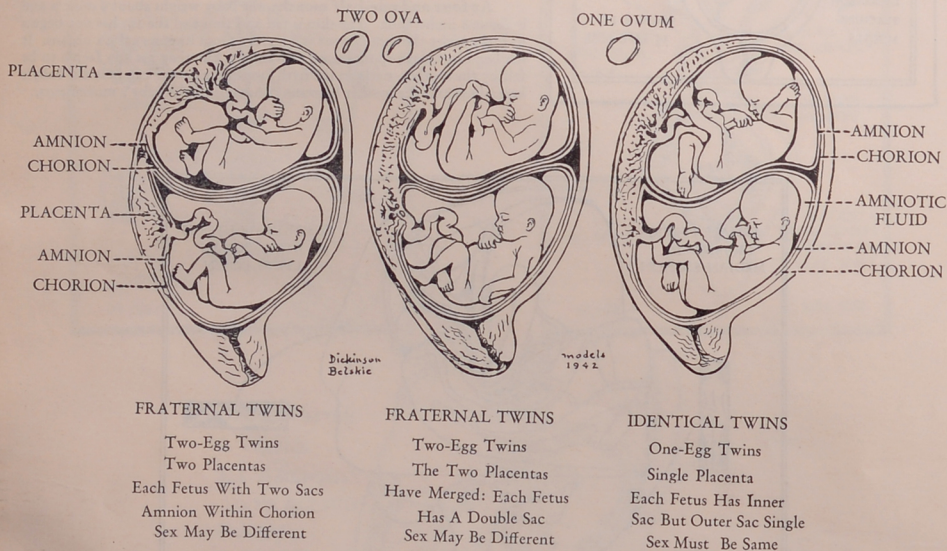
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Fourth Edition, 1954

A GRASP of the third dimension is essential when teaching the anatomy and physiology of reproduction. It is difficult to describe depth or represent things in the round by means of flat drawings. The pictures of the "Birth Atlas" present a very striking illusion of third dimension. The reproductions are photographs of life-size sculptures showing the growth of the baby step by step from conception until birth and then the slow return of the uterus to normal size and position.

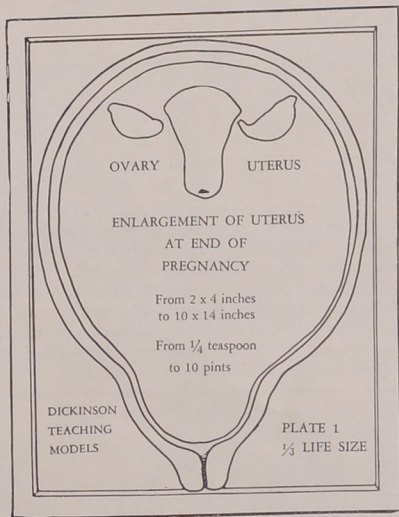
The models differ from the usual textbook illustrations because of their live look; and upstanding womb-at-work and pulled-up cervix. This is due to their development from selections among thousands of X-rays, some made especially for this three dimensional research in Sloane, New Haven, Johns Hopkins, Bronx, and Harlem Hospitals. Doctors Caldwell, Moloy, Ball, Thoms, Dippel, and Snow gave much time and counsel to the project, which was carried out in the Studio of the New York Academy of Medicine.



It should be noted that the reproductions show some unavoidable photographic distortion and that various details are deliberately diagrammatic, such as the separation of vaginal walls and peritoneal layers or thickened membranes and fascia.

Dr. Robert L. Dickinson was designer and draughtsman, modeller of the anatomy and obstetrics; Abram Belskie, D.A.,

the sculptor; and Malvina Hoffman, the consultant. The late Dr. Vladimir Fortunato gave valued early aid. The photographs were made by the DeWitt Ward Studio. H. J. Harris helped in retouching the photographs and Dr. E. Schuchardt made the line drawings. This pioneer project was undertaken for the Maternity Center Association and was exhibited by them at the New York World's Fair.



WHEN the mother misses the first expected menstruation (four weeks menstrual age) the embryo has just begun to develop and the whole product of fertilization is about the size of a BB shot.

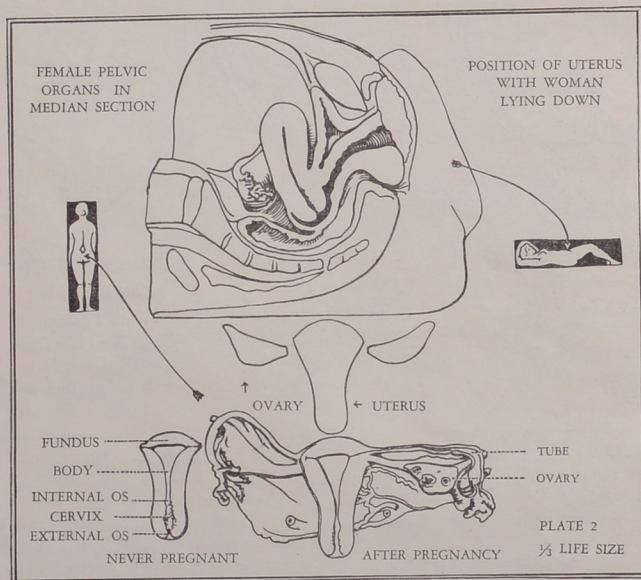
At six weeks, the embryo is beginning to take form. The head region shows the optical vesicle and the rudiments of the inner ear. The heart is enlarging and beating and the blood is circulating. The fetus has a distinct tail and the leg buds have appeared.

At seven weeks, the head is larger; the arms are beginning to form; the internal organs are enclosed within the body and the tail is growing smaller.

At two and one-half months, the fetus is a big-headed, pot-bellied tiny creature that shows its relation to the human race but looks like a very primitive member. The tail has almost disappeared; the hands and feet have begun to take form, and the face has eyes, nose and mouth.

At three and one-half months, the fetus looks like a baby with its eyes closed. It has a flat nose, an oversized head, short arms and legs. Its hands and feet have webbed fingers and toes. The fetus with its membranes fills the uterine cavity; its internal sex organs are beginning to take shape. Muscles have developed under the skin and the tooth buds for the temporary teeth are formed.

At four and one-half months, the baby weighs about 6 ounces and is about 8 inches long. The skin is red and thin and the fat has not begun to form under the skin. Its sex is apparent from its external sex organs. It has begun to make spontaneous movements but they are too feeble to be felt by the mother. Early in the fifth month the doctor can hear the baby's heart-beat and the mother becomes conscious of the baby's movements.



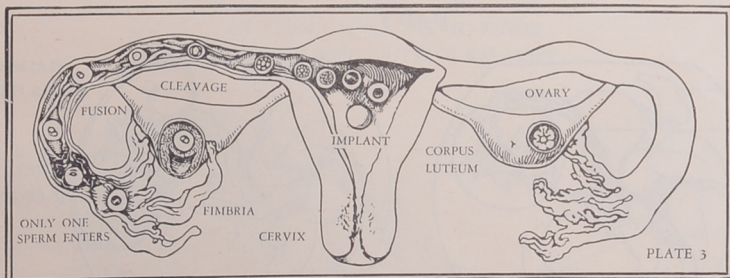


PLATE 3

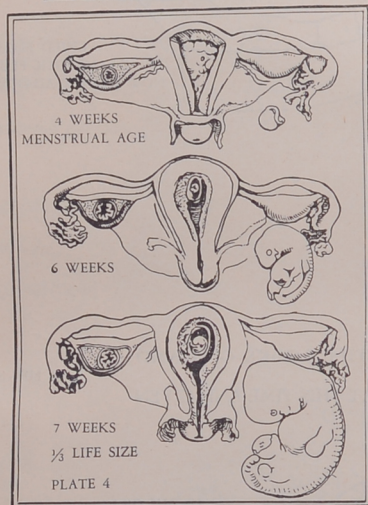


PLATE 4

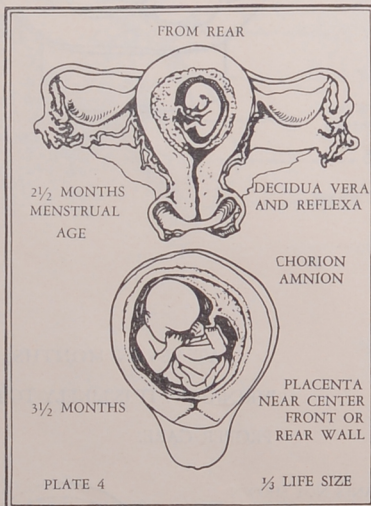
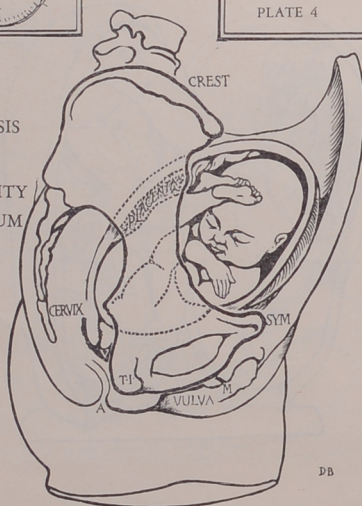


PLATE 4

1/3 LIFE SIZE

SYM. SYMPHYSIS
V. VAGINA
T. I. TUBEROSITY
OF ISCHium
A. ANUS
M. MEATUS

FOUR AND ONE-HALF
MONTHS: MOTHER IN
STANDING POSTURE.

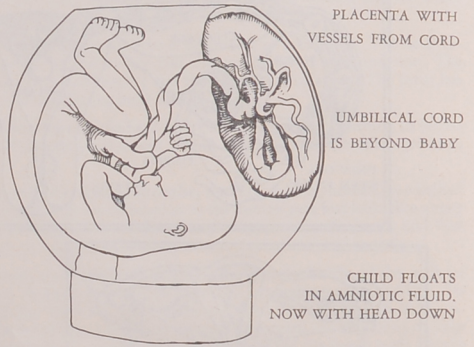
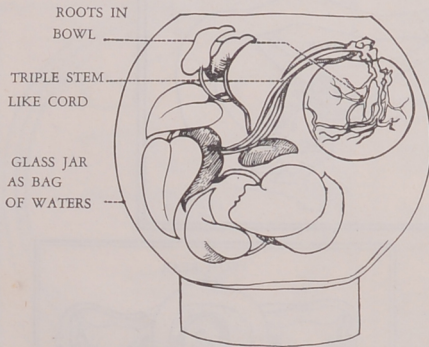


DB

PLATE 5

HEART CAN BE
HEARD BEFORE THIS
PLACENTA FACES
BABY.

PLATE 6



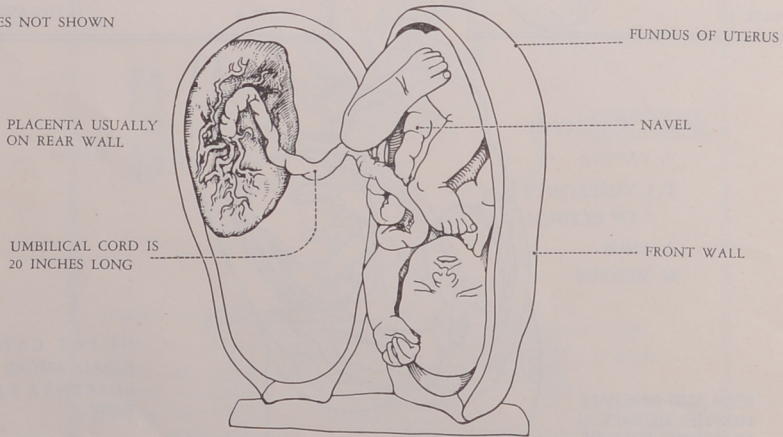
The Baby Grows Like a Plant

PLATE 7

AT SEVEN MONTHS, THE BABY STILL LOOKS OLD AND WRINKLED. IT IS LIKELY TO LIVE IF BORN AT THIS TIME AND GIVEN PROPER CARE.

$\frac{1}{3}$ LIFE SIZE

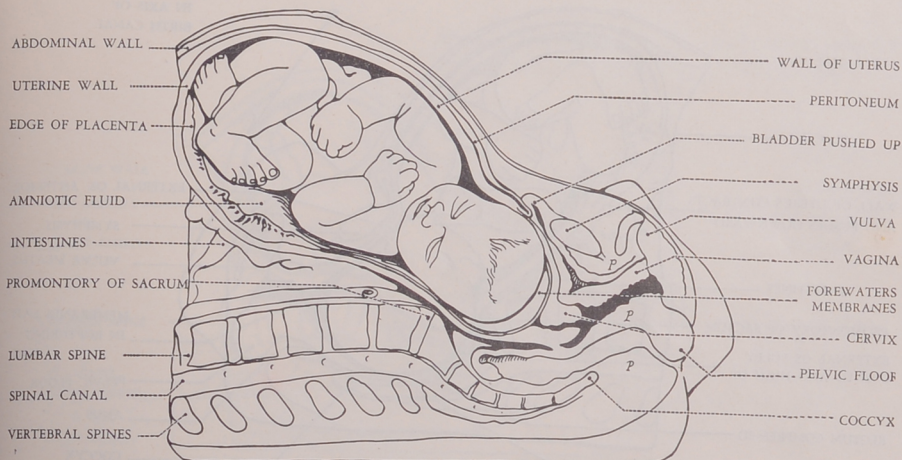
MEMBRANES NOT SHOWN



1/3 LIFE SIZE

AT TERM: THICK PELVIC FLOOR,
CERVIX CLOSED, UTERUS RELAXED

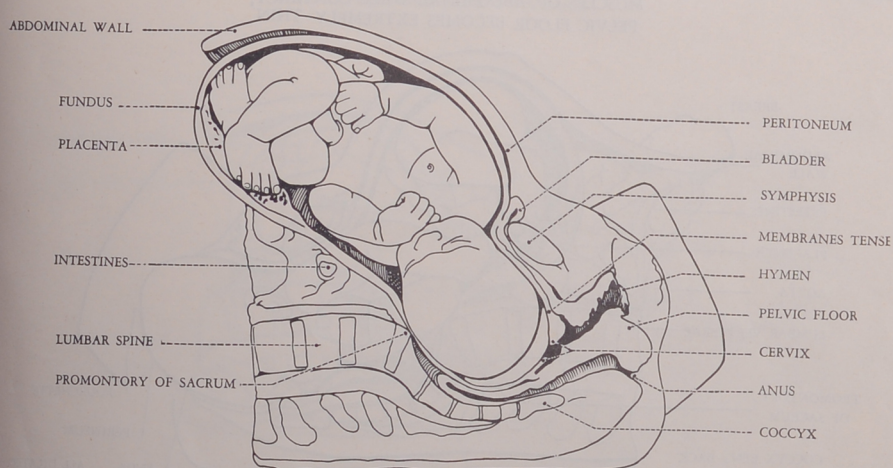
PLATE 8



1/3 LIFE SIZE

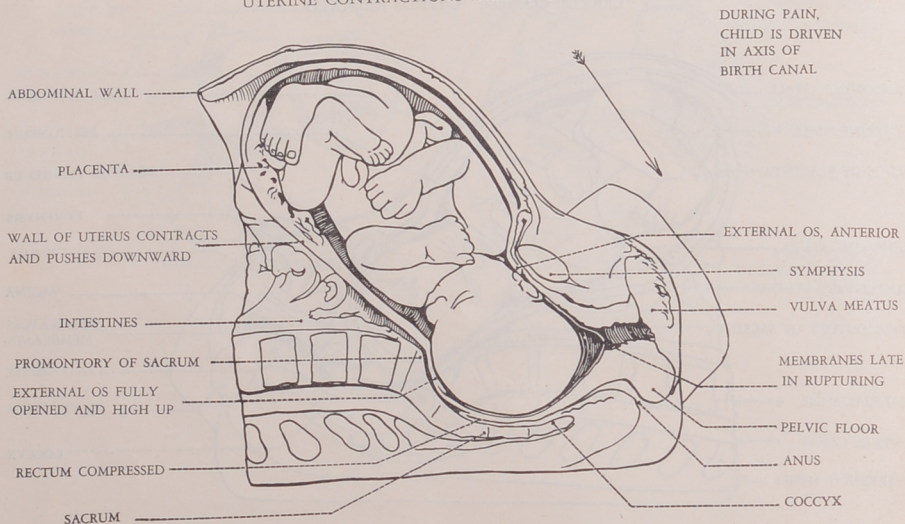
IN LABOR: UTERUS IS CONTRACTING,
CERVIX DILATING, BAG OF WATERS BELOW HEAD

PLATE 9



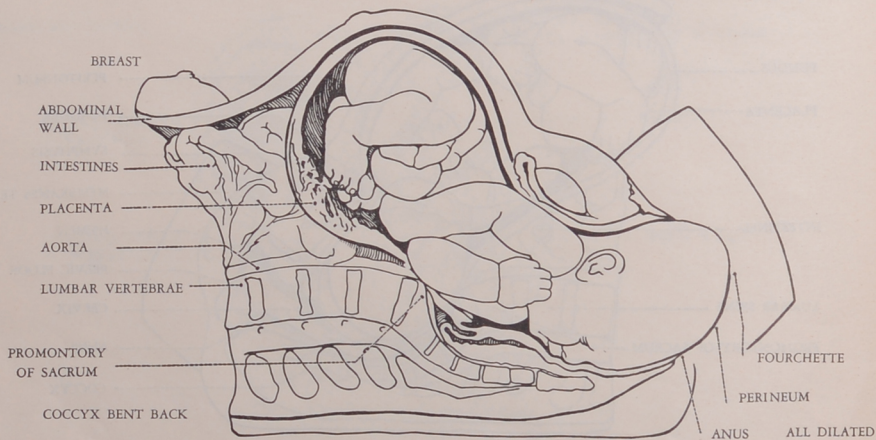
LABOR: HEAD DEEP IN BIRTH CANAL; PULL OF
UTERINE CONTRACTIONS DRAWS CERVIX UP

1/4 LIFE SIZE

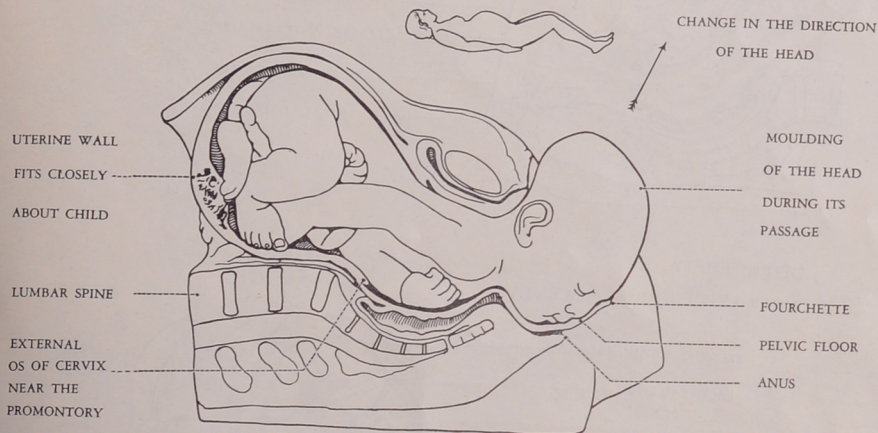


LABOR: HEAD BEGINS TO APPEAR;
MUSCLES OF ABDOMINAL WALL CONTRACT;
PELVIC FLOOR BECOMES EXTREMELY THIN

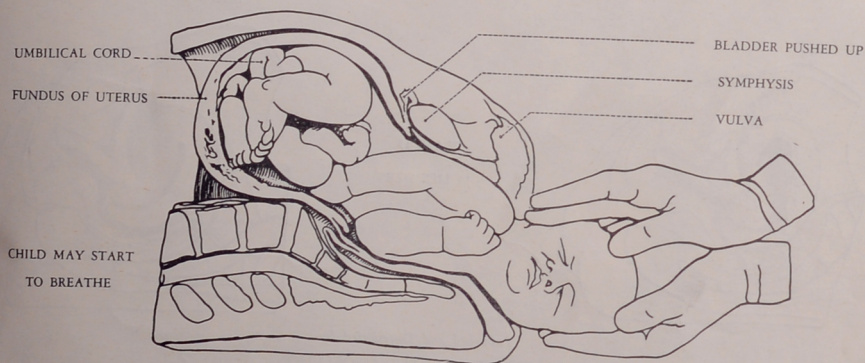
1/2 LIFE SIZE



LABOR: HEAD TURNS UPWARD;
PELVIC FLOOR SLIPS BACK OVER FACE



BIRTH OF THE SHOULDERS,
TURNING TO FIT PASSAGE



PLACENTA AND MEMBRANES SEPARATING

1/3 LIFE SIZE

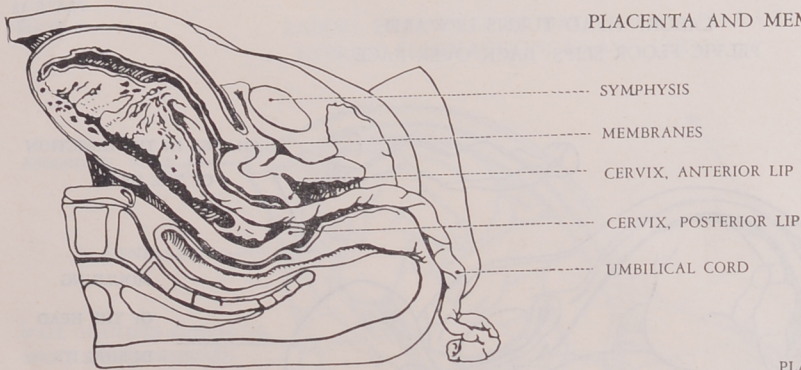


PLATE 14

UTERUS EMPTY

AFTER EXPULSION OF PLACENTA

RELAXED ABDOMINAL WALL

PLACENTAL SITE

CERVIX

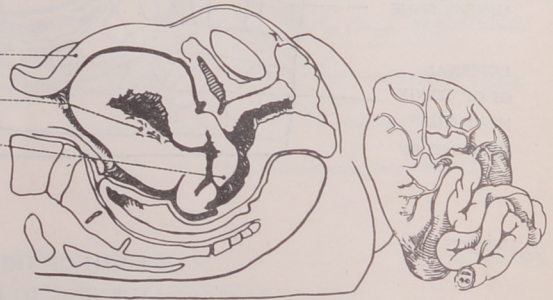


PLATE 14

FIFTH DAY AFTER LABOR

FIFTEENTH DAY AFTER LABOR:

SLOW INVOLUTION

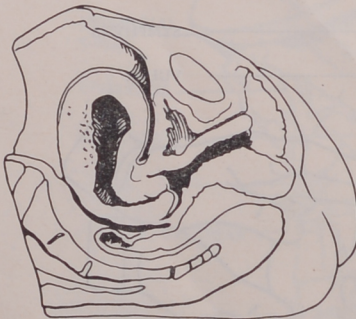
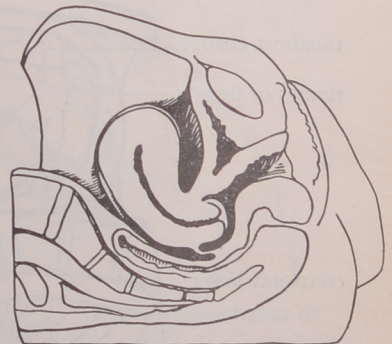


PLATE 15

1/3 LIFE SIZE





OF TWENTYFOURSCULPTURES

ON FERTILIZATION
STEPS OF GROWTH
STAGES OF LABOR
AND INVOLUTION

ROBERT L. TOLSON
DICKINSON

ABRAHAM
BELSKIE

MANEKNILY/CENTER ASSOCIATION
NEW YORK 1940



ENLARGEMENT OF UTERUS

AT END OF
PREGNANCY
from 2 inches by 4
to 10 inches by 14
1/2 inches by 10 pints

OVARY

UTERUS

From

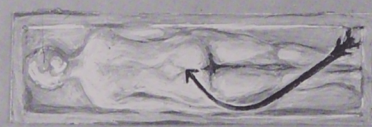
Front

Dickinson series
of teaching models



life-size
throughout

FEMALE PELVIC
ORGANS IN
MEDIAN
SECTION



POSITION OF
UTERUS WITH
WOMAN
LYING DOWN



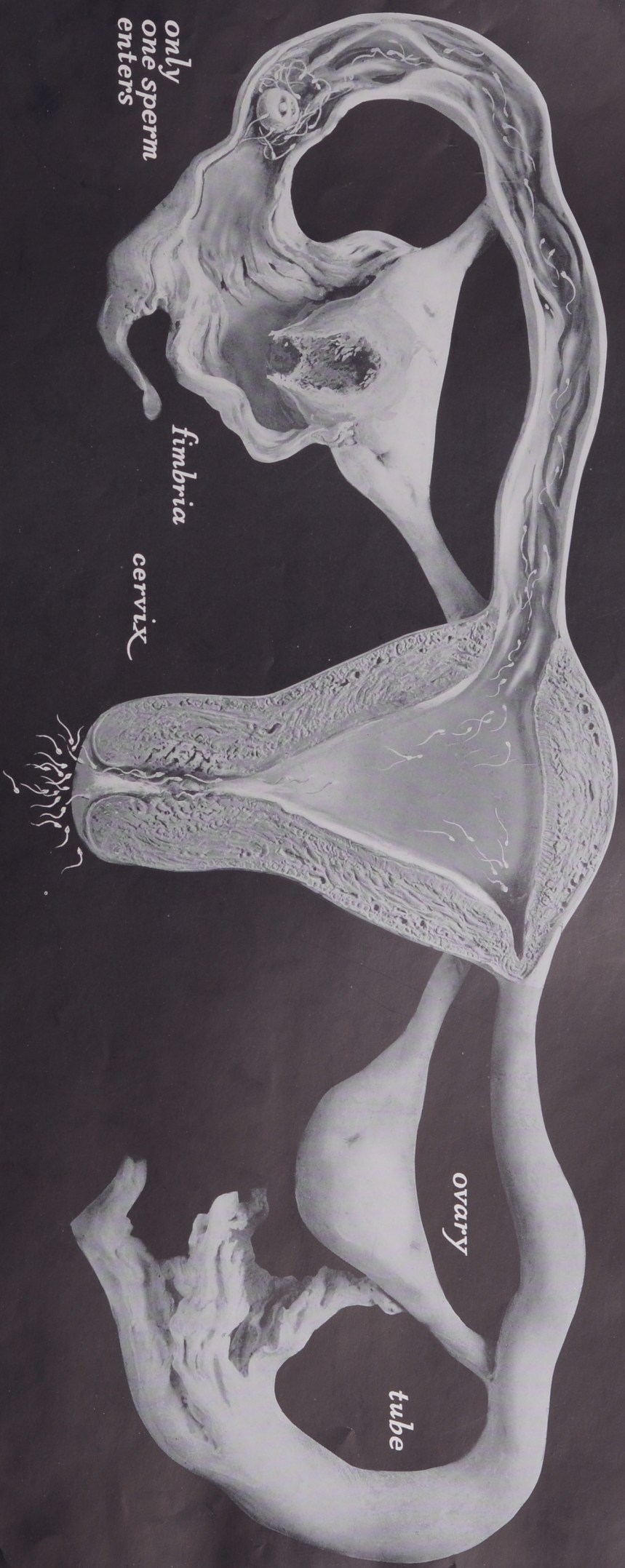
LEFT NEVER
PREGNANT
RIGHT AFTER
PREGNANCY



UTERUS AND
OVARIES
FROM REAR
LIFE SIZE

INSEMINATION : OVULATION : MEETING OF SPERM AND OVUM

BIRTH ATLAS No. 4
PLATE 3





4 weeks
menstrual age



6 weeks
actual size



7 weeks
also fixed
8 times

from rear

V Fortunato—R. L. Dickinson '39.

from

rear



2 1/2 months

actual size

decidua vera
& reflexa

chorion
amnion



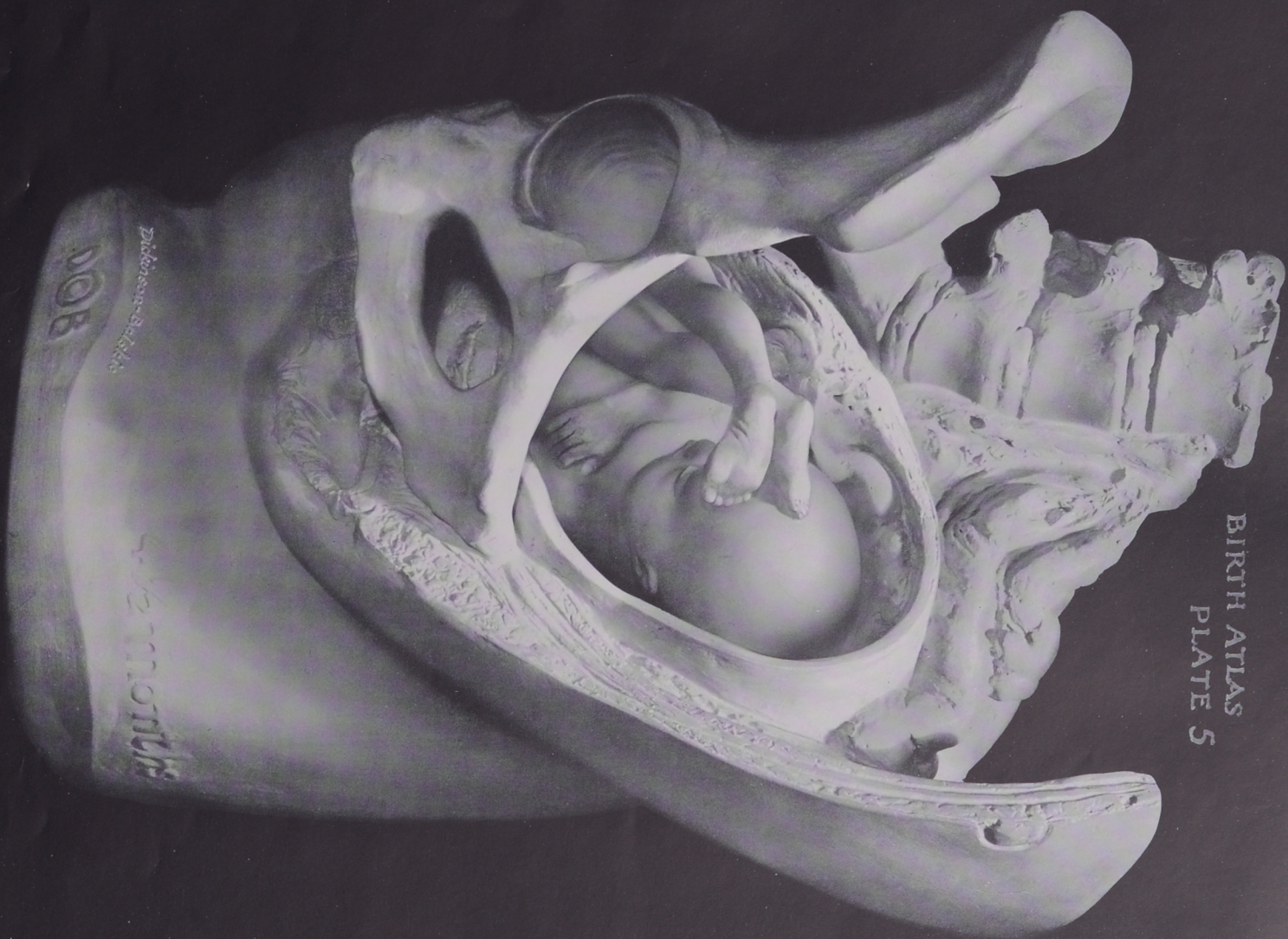
3 1/2 months
menstrual
age

placenta
near center
front or rear
wall

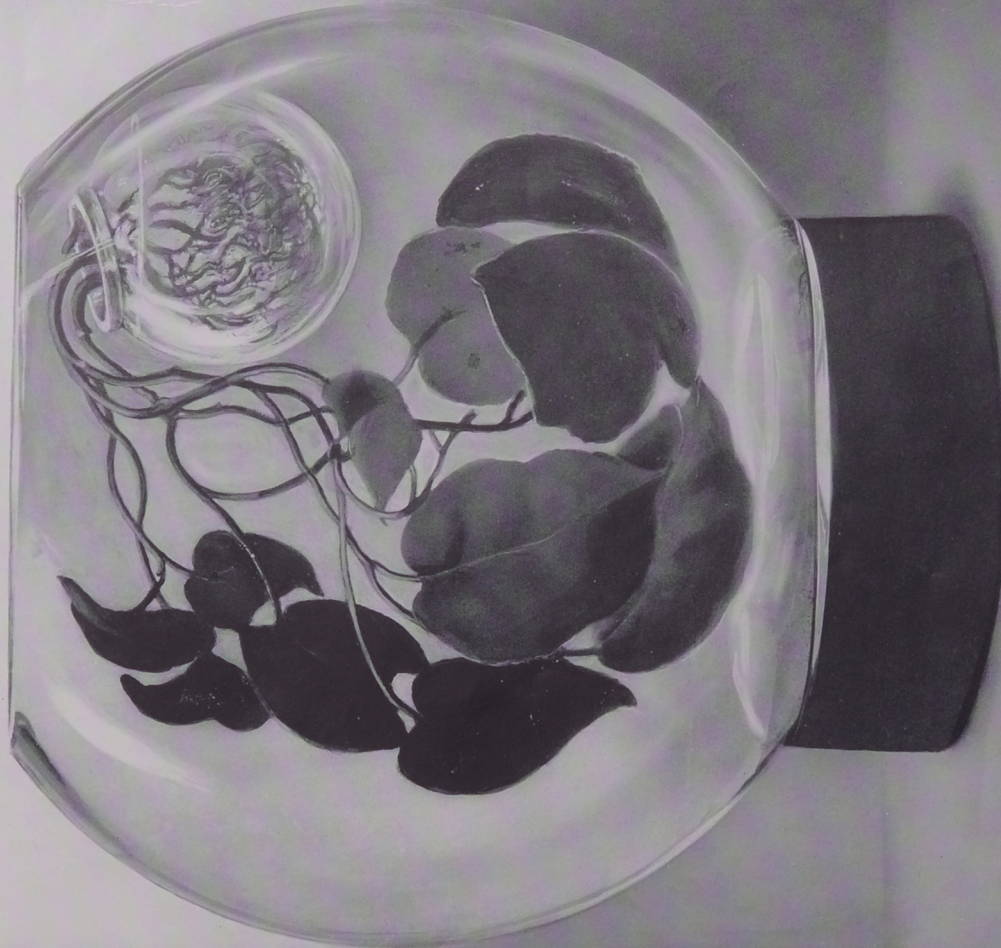
Dickinson series



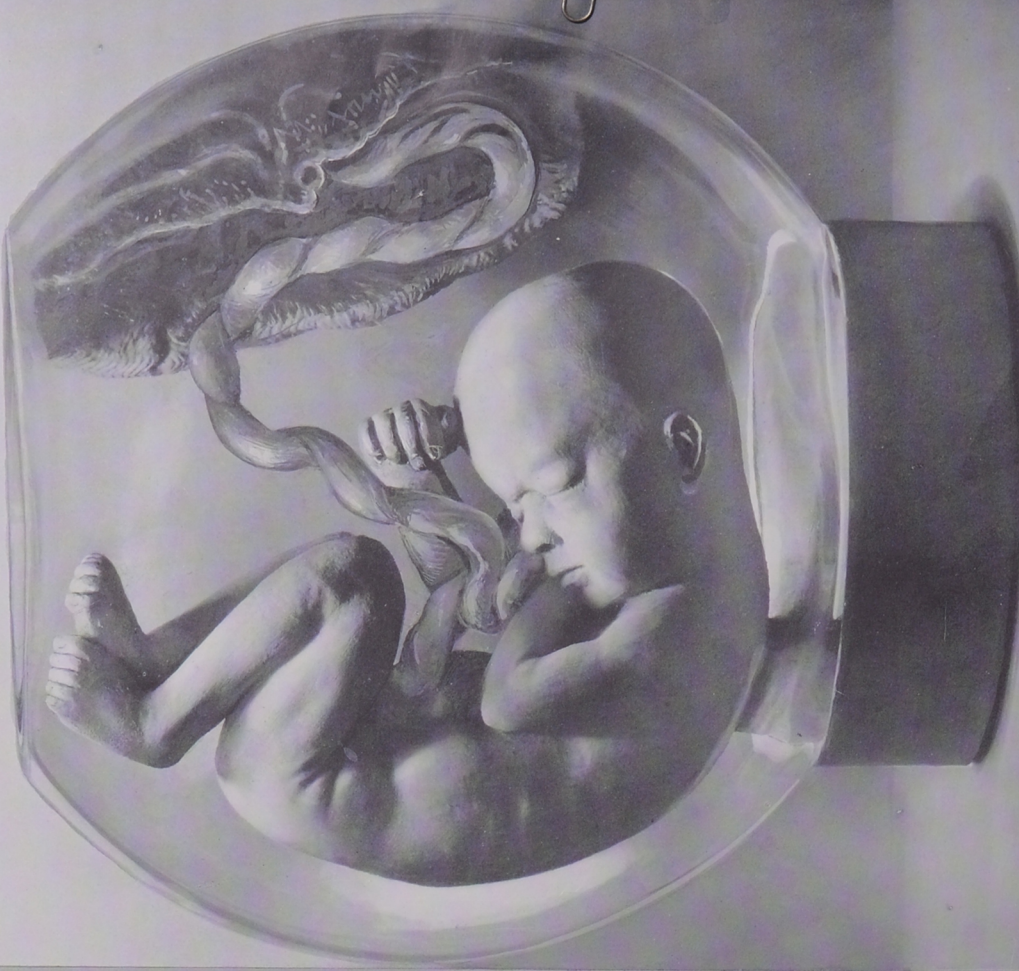
BIRTH ATLAS
PLATE 5



NOURISHMENT OF PLANT THROUGH STEM, WITH THE
ROOTS DIPPING INTO POOL OF WATER



NOURISHMENT OF CHILD THROUGH CORD, WITH THE
ROOT-VESSELS DIPPING INTO RESERVOIR OF ITS MOTHER'S
PLACENTAL BLOOD



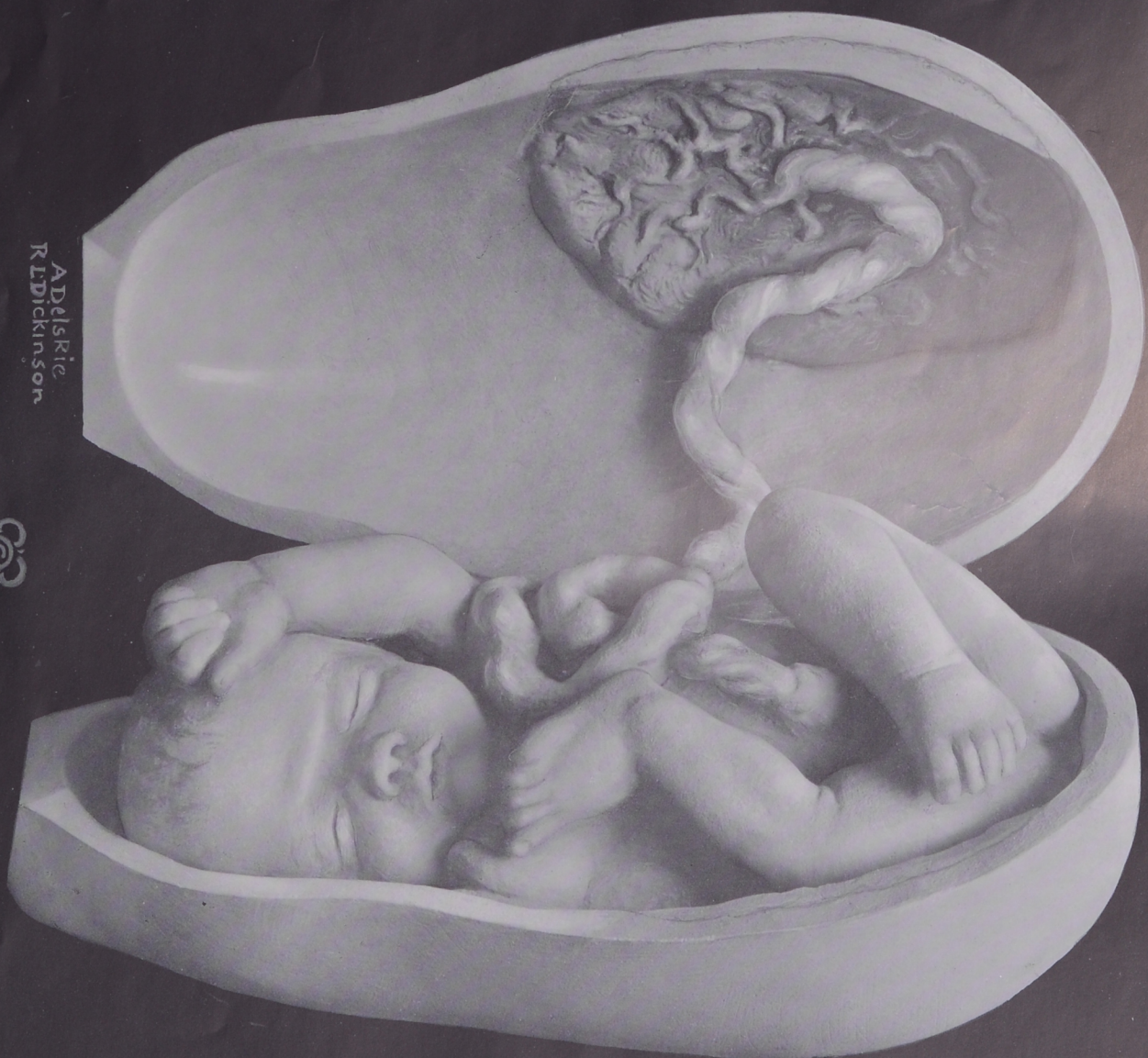
Dickinson & Belknap

BIRTH
ATLAS
PLATE 6
No 11
& 12

SEVENTH
MONTH

BIRTH ATLAS N°12
PLATE 7

PLACENTA
OPPOSITE BABY



AD&S
R. Dickinson





LABOR-CERVIX DILATING GRUBA G OF W/ATERS PLANT 9



WATERBURY, MASS.



ABDOMINAL SCIENCE FOR THE FUTURE



MANUFACTURED BY THE



BIRTH OF SHOULDERS ROTATION PLATE 13

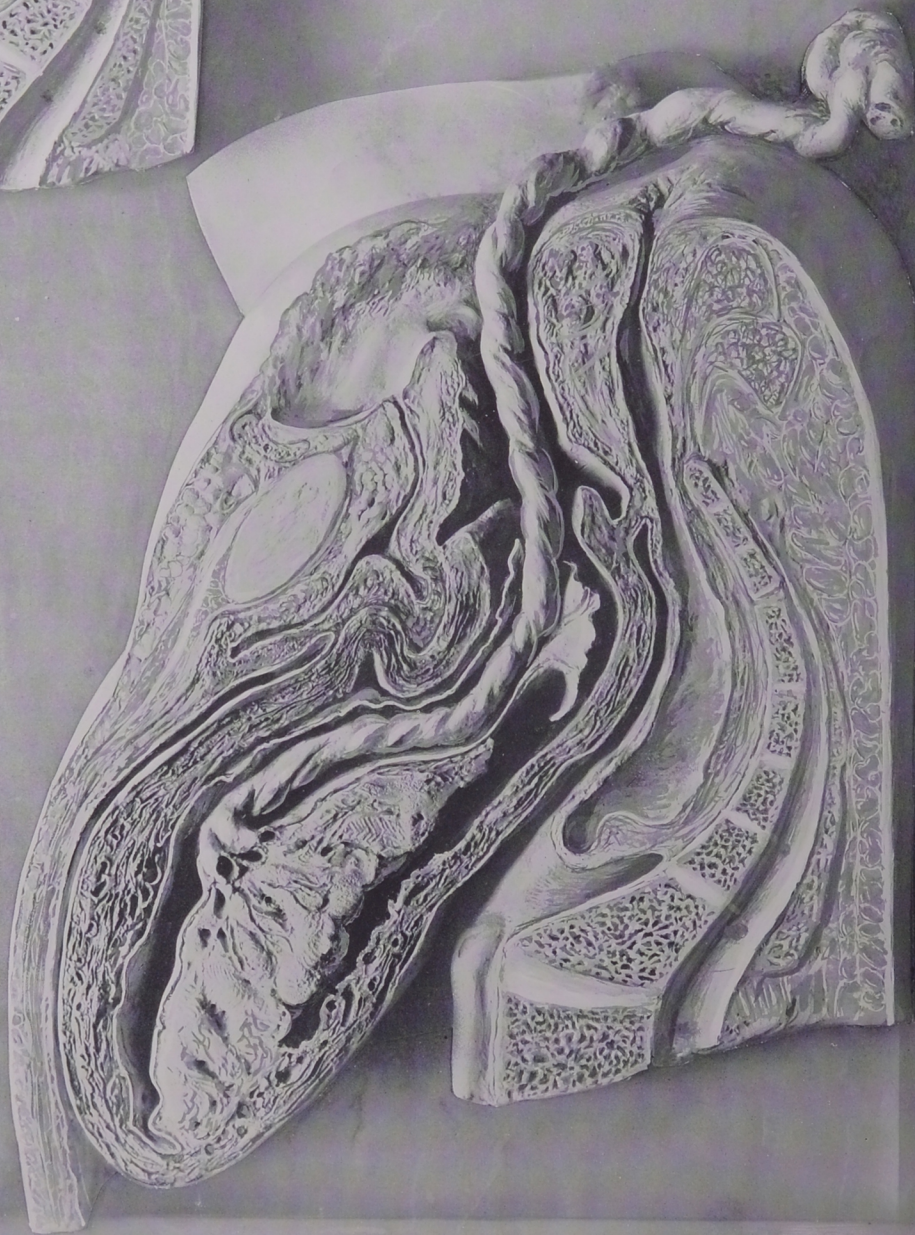


UTERUS AFTER EXIT
OF PLACENTA: SAGS
INTO PELVIS



DICKINSON & BELSKIE

PLACENTA ALMOST
SEPARATED AND
MEMBRANES
LOOSENE





FOURTEENTH AFTER LABOR
SLOW SHRINKAGE OF UTERUS,
IF EXERTION IS EXCESSIVE
DISPLACEMENT & PROLAPSE

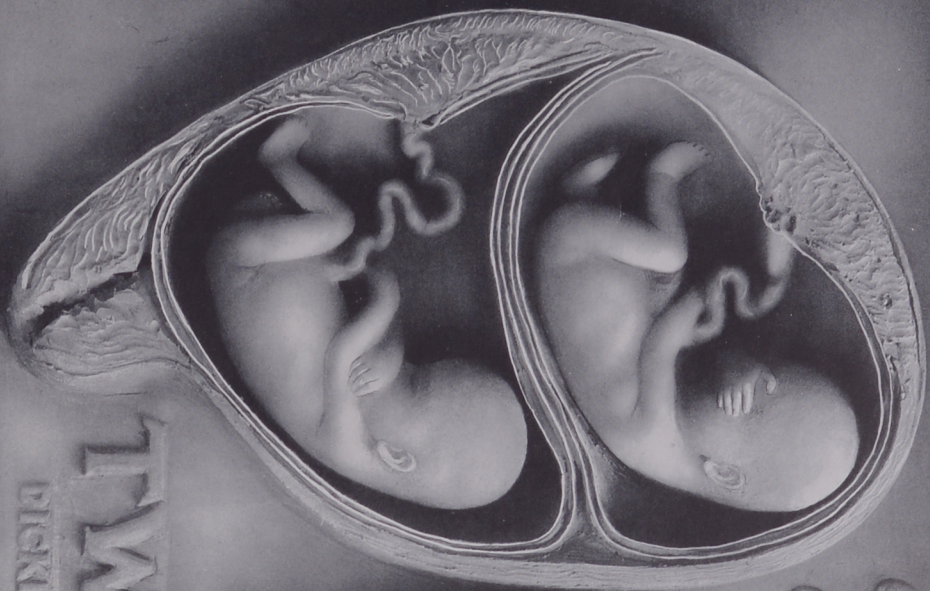


FIFTH DAY AFTER LABOR
INVOLUTION UNDER WAY
MEDIAN SECTION

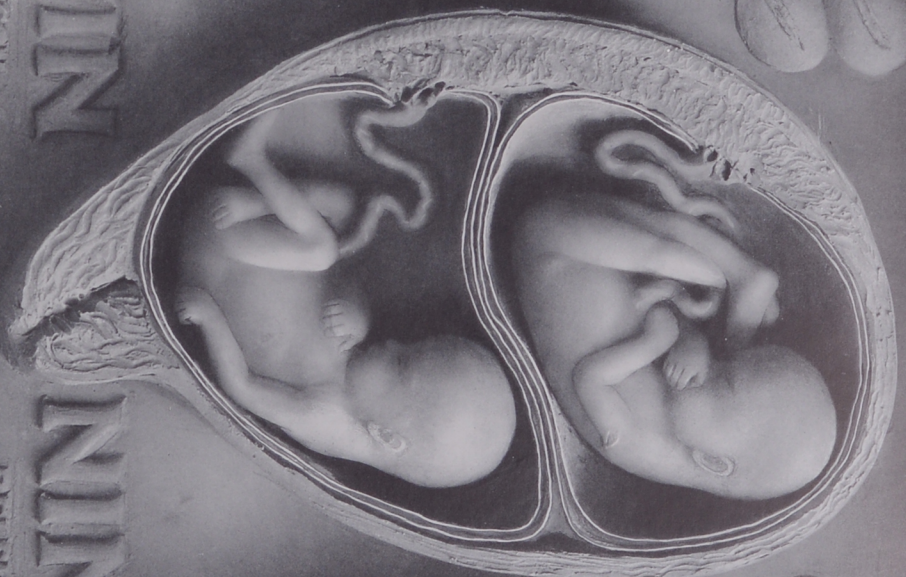




TWINS BIRTH ATLAS PLATE IV



PICKINSON



BELSKIE



DEE

TWO EGG TWINS

TWO PLACENTAS
EACH FETUS WITH TWO
SACS/AMNION INSIDE
AND CHORION OUTSIDE
SEX/MAY BE DIFFERENT
FRATERNAL TWINS

1 TWIN

TWO EGG TWINS

TWO PLACENTAS
HAVE MERGED EACH
FETUS HAS BOTH MEM-
BRANES/AMNION AND
CHORION SEX/MAY BE
DIFFERENT

2 TWINS

ONE EGG TWINS

ONE PLACENTA EACH FETUS
WITH INNER SAG (AMNION)
SINGLE OUTER MEMBRANE
(CHORION) ENVELOPS BOTH
SAME SEX IDENTICAL
TWINS